

What is claimed is:

1. A protein having following properties:

(1) having hemolytic activity;

5 (2) having a molecular weight of about 50,000 Da (determined by SDS gel electrophoresis); and

(3) having the amino acid sequence represented by any of SEQ ID NO 1 to SEQ ID NO 3 as a partial amino acid sequence.

10 2. The protein according to claim 1, wherein the protein is obtained from nematocyst of *Carybdea rastonii*.

3. A protein having the hemolytic activity which has the same amino acid sequence as the hemolytic active protein according to claim 1, or the amino acid sequence modified by  
15 the addition and deletion of one or more amino acid, and/or the substitution by other amino acid to said amino acid sequence, and which is obtained from the cultivated product of the transformed cell prepared by genetic recombinant technique.

20 4. A protein having amino acid sequence represented by SEQ ID NO 5, or the amino acid sequence modified by the addition and deletion of one or more amino acid, and/or the substitution by other amino acid to said amino acid sequence, and having  
25 hemolytic activity.

5. The protein having hemolytic activity according to claim 3 or 4, wherein said protein is obtained from cultivated solution of transformed cell prepared by genetic recombinant

technique using polynucleotide which hybridizes with polynucleotide encoding at least one of the amino acid sequences represented by SEQ ID NO 1 to SEQ ID NO 3.

5           6.     A process for preparing the protein according to claims 1, 2, or 4 comprising of ultrasonication of *Carybdea rastonii* in phosphoric acid buffer solution, and extracting and purifying the supernatant fluid after centrifugation by ion exchange high performance liquid chromatography and gel filtration high performance liquid chromatography to obtain the protein.

10           7.     A process for preparing the protein according to claim 6, characterized by carrying out the ultrasonication for a nematocyst in phosphoric acid buffer solution, or treating by ion exchange high performance liquid chromatography and gel filtration high performance liquid chromatography in 10mM phosphoric acid buffer solution (pH6.0) containing not less than 0.1M NaCl at not more than 10°C.

20           8.     A gene encoding the amino acid sequence of the protein having a hemolytic activity according to any one of claims 1 to 5.

25           9.     A vector comprising the gene according to claim 8.

          10.    A host cell transformed by the vector as claimed in claim 9.

